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APPLICATION NO.	F	ILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION N
09/866,226	05/24/2001		Eiju Katsuragi	16869S-027400US	5895
20350	7590	10/19/2006		EXAMINER	
		TOWNSEND AND	OSMAN, RAMY M		
TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834				ART UNIT	PAPER NUMBER
				2157	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
	09/866,226	KATSURAGI ET AL.				
Office Action Summary	Examiner	Art Unit				
	Ramy M. Osman	2157				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tim vill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
Responsive to communication(s) filed on <u>24 Jules</u> This action is FINAL . 2b) ☐ This Since this application is in condition for allower closed in accordance with the practice under E	action is non-final. nce except for formal matters, pro					
Disposition of Claims						
4) ⊠ Claim(s) 1,3,5,7,9,11,13 and 15 is/are pending 4a) Of the above claim(s) is/are withdray 5) □ Claim(s) is/are allowed. 6) ⊠ Claim(s) 1,3,5,7,9,11,13 and 15 is/are rejected 7) □ Claim(s) is/are objected to. 8) □ Claim(s) are subject to restriction and/or	vn from consideration.					
Application Papers						
9) The specification is objected to by the Examine 10) The drawing(s) filed on is/are: a) acce Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the Ex	epted or b) objected to by the d drawing(s) be held in abeyance. See ion is required if the drawing(s) is ob	e 37 CFR 1.85(a). jected to. See 37 CFR 1.121(d).				
Priority under 35 U.S.C. § 119						
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 						
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail Do 5) Notice of Informal F 6) Other:	ate				

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DETAILED ACTION

Status of Claims

1. This communication is responsive to amendment filed July 24, 2006, where applicant amended claims 1,3,5,7,9,11,13 and 15, and cancelled claims 2,4,6,8,10,12,14,16. Claims 1,3,5,7,9,11,13 and 15 are pending.

Response to Arguments

- 2. Applicant's arguments with respect to claims 1,3,5,7,9,11,13 and 15 have been considered but are most in view of the new ground(s) of rejection, as follows below.
- 3. Applicants amendments overcome 112 second paragraph rejection. The 112 second paragraph rejection is withdrawn.

Claim Rejections - 35 USC § 103

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 5. Claims 1,2,8,9 rejected under 35 U.S.C. 103(a) as being unpatentable over Ronstrom (US Patent No 6,438,707) in view of Mutalik et al (US Patent No 6,611,923).
- 6. In reference to claims 1 and 9, Ronstrom teaches a data duplicating method and system respectively that connects a first information processing system comprised of a first host computer and a first storage device and at least one second information processing system

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comprised of a second host computer and a second storage device through a data transfer path and copies first update data generated in said first information processing system to said second information processing system (column 2 lines 25-40 & 50-65, column 4 lines 4-11 & 35-41, column 10 lines 30-47, column 11 lines 22-50, Ronstrom teaches a primary and a backup system that are synchronized with update data),

the second information processing system generating second update data after taking over information and data processing performed by said first information processing system when said first information processing system stops operating (column 2 lines 25-40 & 50-65, column 4 lines 4-11 & 35-41, column 10 lines 30-47, column 11 lines 22-50, Ronstrom teaches the backup system assuming functions of the primary system when a fault is detected in the primary system).

Ronstrom fails to explicitly teach wherein said second information processing system generates difference control information for identifying second update data generated in said second information processing system after taking over information and data processing performed by said first information processing system when said first information processing system stops operating, and after resumption of operation said first information processing system, said second update data is selectively copied to said first information processing system on the basis of said difference control information. However, Mutalik teaches a backup server backing up a main mass storage system, and then restoring the mass storage system if a malfunction occurs on the mass storage system, for the purpose of restoring a malfunctioned storage system (column 3 lines 15-35, column 4 lines 5-10 & 30-60, column 5 lines 4-20).

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It would have been obvious for one of ordinary skill in the art to modify Ronstrom wherein said second information processing system generates difference control information for identifying second update data generated in said second information processing system after taking over information and data processing performed by said first information processing system when said first information processing system stops operating, and after resumption of operation said first information processing system, said second update data is selectively copied to said first information processing system on the basis of said difference control information as per the teachings of Mutalik for the purpose of restoring a malfunctioned primary system.

Ronstrom fails to explicitly teach wherein said difference control information is a bit map that indicates the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices. However, Kitagawa teaches an updating bit map table indicating the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices for the purpose of managing backup control and recovery (column 10 lines 1-15 and column 13 line 30 – column 14 line 15).

It would have been obvious for one of ordinary skill in the art to modify Ronstrom wherein said difference control information is a bit map that indicates the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices as per the teachings of Kitagawa for the purpose of managing backup control and recovery.

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7. Claims 3-7,10-16 rejected under 35 U.S.C. 103(a) as being unpatentable over

Ronstrom (US Patent No 6,438,707) in view of Mutalik et al (US Patent No 6,611,923) in

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further view of Yanai et al (US Patent No 5,544,347).

8. In reference to claims 3,5,11 and 13, Ronstrom teaches a data duplicating method and

system respectively that connects a first information processing system comprised of a first host

computer and a first storage device and at least one second information processing system

comprised of a second host computer and a second storage device through a data transfer path

and holds the same data in duplicate in said first and second information processing systems by

copying first update data generated in said first information processing system to said second

information processing system (column 2 lines 25-40 & 50-65, column 4 lines 4-11 & 35-41,

column 10 lines 30-47, column 11 lines 22-50, Ronstrom teaches a primary and a backup system

that are synchronized with update data),

the second information processing system generating second update data after taking over

information and data processing performed by said first information processing system when

said first information processing system stops operating (column 2 lines 25-40 & 50-65, column

4 lines 4-11 & 35-41, column 10 lines 30-47, column 11 lines 22-50, Ronstrom teaches the

backup system assuming functions of the primary system when a fault is detected in the primary

system).

Ronstrom fails to explicitly teach wherein said second information processing system

generates difference control information for identifying second update data generated in said

second information processing system after taking over information and data processing

performed by said first information processing system when said first information processing

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system stops operating, and after resumption of operation said first information processing system, said second update data is selectively copied to said first information processing system on the basis of said difference control information. However, Mutalik teaches a backup server backing up a main mass storage system, and then restoring the mass storage system if a malfunction occurs on the mass storage system, for the purpose of restoring a malfunctioned storage system (column 3 lines 15-35, column 4 lines 5-10 & 30-60, column 5 lines 4-20).

It would have been obvious for one of ordinary skill in the art to modify Ronstrom wherein said second information processing system generates difference control information for identifying second update data generated in said second information processing system after taking over information and data processing performed by said first information processing system when said first information processing system stops operating, and after resumption of operation said first information processing system, said second update data is selectively copied to said first information processing system on the basis of said difference control information as per the teachings of Mutalik for the purpose of restoring a malfunctioned primary system.

Ronstrom fails to explicitly teach wherein the respective method and system include asynchronously copying first update data generated in said first information processing system to said second information processing system. However, Yanai teaches a data backup system with different ways of data transfer such as asynchronously copying first update data generated in said first information processing system to said second information processing system (column 3 lines 1-10).

It would have been obvious for one of ordinary skill in the art to modify Ronstrom by asynchronously copying first update data generated in said first information processing system to

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said second information processing system as per the teachings of Yanai since this is one of the known ways of transferring backup data.

Ronstrom fails to explicitly teach wherein said difference control information is a bit map that indicates the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices. However, Kitagawa teaches an updating bit map table indicating the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices for the purpose of managing backup control and recovery (column 10 lines 1-15 and column 13 line 30 – column 14 line 15).

It would have been obvious for one of ordinary skill in the art to modify Ronstrom wherein said difference control information is a bit map that indicates the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices as per the teachings of Kitagawa for the purpose of managing backup control and recovery.

9. In reference to claims 7 and 15, Ronstrom teaches a data duplicating method and system respectively that connects a first information processing system comprised of a first host computer and a first storage device and at least one second information processing system comprised of a second host computer and a second storage device through a data transfer path and holds the same data in duplicate in said first and second information processing systems by copying first update data generated in said first information processing system to said second information processing system (column 2 lines 25-40 & 50-65, column 4 lines 4-11 & 35-41,

column 10 lines 30-47, column 11 lines 22-50, Ronstrom teaches a primary and a backup system that are synchronized with update data).

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the second information processing system generating second update data after taking over information and data processing performed by said first information processing system when said first information processing system stops operating (column 2 lines 25-40 & 50-65, column 4 lines 4-11 & 35-41, column 10 lines 30-47, column 11 lines 22-50, Ronstrom teaches the backup system assuming functions of the primary system when a fault is detected in the primary system).

Ronstrom fails to explicitly teach wherein said second information processing system generates difference control information for identifying second update data generated in said second information processing system after taking over information and data processing performed by said first information processing system when said first information processing system stops operating, and after resumption of operation said first information processing system, said second update data is selectively copied to said first information processing system on the basis of said difference control information. However, Mutalik teaches a backup server backing up a main mass storage system, and then restoring the mass storage system if a malfunction occurs on the mass storage system, for the purpose of restoring a malfunctioned storage system (column 3 lines 15-35, column 4 lines 5-10 & 30-60, column 5 lines 4-20).

It would have been obvious for one of ordinary skill in the art to modify Ronstrom wherein said second information processing system generates difference control information for identifying second update data generated in said second information processing system after taking over information and data processing performed by said first information processing

system when said first information processing system stops operating, and after resumption of operation said first information processing system, said second update data is selectively copied to said first information processing system on the basis of said difference control information as per the teachings of Mutalik for the purpose of restoring a malfunctioned primary system.

Ronstrom fails to explicitly teach wherein the respective method and system include synchronously copying first update data generated in said first information processing system to said second information processing system. However, Yanai teaches a data backup system with different ways of data transfer such as synchronously copying first update data generated in said first information processing system to said second information processing system (column 3 lines 1-10).

It would have been obvious for one of ordinary skill in the art to modify Ronstrom by synchronously copying first update data generated in said first information processing system to said second information processing system as per the teachings of Yanai since this is one of the known ways of transferring backup data.

Ronstrom fails to explicitly teach wherein said difference control information is a bit map that indicates the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices. However, Kitagawa teaches an updating bit map table indicating the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices for the purpose of managing backup control and recovery (column 10 lines 1-15 and column 13 line 30 – column 14 line 15).

It would have been obvious for one of ordinary skill in the art to modify Ronstrom wherein said difference control information is a bit map that indicates the presence or absence of completion of data duplication of said first and second update data at a plurality of individual units of data storage in each of said first and second storage devices as per the teachings of Kitagawa for the purpose of managing backup control and recovery.

Conclusion

- 10. Applicant is advised that the above specified citations of the relied upon prior art are only representative of the teachings of the prior art, and that any other supportive sections within the entirety of the reference (including any figures, incorporation by references, and claims) is implied as being applied to teach the scope of the claims.
- 11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US Patent No 6,397,229, Menon et al teaches a storage controller utilizing a bitmap for monitoring.

US Patent No 6,366,986, St Pierre et al teaches a method for differential backup in a computer storage system utilizing mapping the file system.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramy M. Osman whose telephone number is (571) 272-4008. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RMO October 13, 2006